

**CLAIMS:**

1. A black-and-white thermographic material comprising a support having thereon at least one imaging layer comprising a binder and imaging chemistry that consists essentially of:
  - 5 a) a non-photosensitive source of reducible silver ions,
  - b) a color developing agent precursor that releases a color developing agent when heated to a temperature of at least 80°C,
  - c) a cyan dye-forming color coupler that is capable of reacting with said released color developing agent to produce a cyan dye, and
  - 10 d) a magenta dye-forming color coupler that is capable of reacting with said released color developing agent to produce a magenta dye, wherein said released color developing agent is further capable of reducing said reducible silver ions.
- 15 2. The material of claim 1 that is substantially free of black-and-white developing agents that are capable of solely reducing said reducible silver ions.
- 20 3. The material of claim 1 that is substantially free of phthalazinone and phthalazinone derivatives.
4. The material of claim 1 wherein said color developing agent precursor releases a *p*-phenylenediamine color developing agent upon heating to a temperature of at least 80°C.
- 25 5. The material of claim 1 wherein said non-photosensitive source of reducible silver ions is provided as a nanoparticulate dispersion.
- 30 6. The material of claim 1 wherein said non-photosensitive source of reducible silver ions includes one or more silver carboxylates, one of which is silver behenate.

7. The material of claim 6 wherein said non-photosensitive source of reducible silver ions includes highly crystalline silver behenate.

8. The material of claim 1 wherein said color developing agent precursor is present in an amount of from about 0.01 to about 2 mol per mole of total silver.

9. The material of claim 1 wherein said cyan dye-forming color coupler and said magenta dye-forming color coupler are independently present in an amount of from 0.05 to 2 mol per mole of reducible silver ions.

10. The material of claim 1 wherein said cyan dye-forming color coupler and said magenta dye-forming color coupler are independently present in an amount of from 0.10 to 1 mol per mole of reducible silver ions.

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11. The material of claim 1 wherein the amount of total silver is at least 0.001 mol/m<sup>2</sup>.

12. The material of claim 1 wherein said binder is a hydrophilic binder or a water-dispersible polymer latex binder.

13. The material of claim 1 further containing a toning agent that is a phthalazine or phthalazine derivative, that is present in an amount of from about 0.01 to about 10% based on the total dry weight of the layer in which it is located.

14. The material of claim 1 that is duplitized, having one or more of the same or different imaging layers on both sides of said support.

30 15. The material of claim 1 further comprising a protective layer over said one or more imaging layers.

16. A black-and-white, non-photosensitive thermographic material that comprises a transparent polymer support having on only one side thereof one or more thermally sensitive imaging layers and an outermost non-thermally sensitive protective layer over said one or more thermally sensitive 5 imaging layers,

said one or more thermally sensitive imaging layers comprising one or more hydrophilic binders, and in reactive association, imaging chemistry consisting essentially of:

- a) a non-photosensitive source of reducible silver ions that 10 includes one or more silver aliphatic carboxylates at least one of which is silver behenate,
  - b) a color developing agent precursor that releases a *p*-phenylenediamine color developing agent when heated to a temperature of at least 80°C,
  - c) a development enhancing toning agent,
  - d) a cyan dye-forming color coupler that is capable of reacting 15 with said released color developing agent to produce a cyan dye, and
  - e) a magenta dye-forming color coupler that is capable of reacting with said released color developing agent to produce a magenta dye,
- 20 said cyan dye-forming color coupler and magenta dye-forming color coupler being independently present in an amount from 0.1 to 1 mole per mole of reducible silver ions, and the amount of silver is at least 0.001 mol/m<sup>2</sup>, and wherein said released color developing agent is further capable of reducing said reducible silver ions and said material is substantially free of black-and-white 25 developing agents that are capable of solely reducing said reducible silver ions and substantially free of phthalazinone and phthalazinone derivatives.

17. The material of claim 16 wherein said hydrophilic binder is gelatin or a derivative thereof, a cellulosic material, or a poly(vinyl alcohol).

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18. The material of claim 15 wherein said color developing agent precursor is present in an amount of from about 0.01 to about 2 mol per

mole of total silver, and said toning agent is a phthalazine or phthalazine derivative that is present in an amount of from about 0.01 to about 10% based on the total dry weight of the layer in which it is located.

5               19.     A method comprising imaging the thermographic material of claim 1 with a thermal imaging source to provide a visible image.

10              20.     The method of claim 19 wherein said thermographic material comprises a transparent support and said image-forming method further comprises:

positioning said imaged thermographic material with the visible image thereon between a source of imaging radiation and an imageable material that is sensitive to said imaging radiation, and

15              thereafter exposing said imageable material to said imaging radiation through the visible image in said imaged thermographic material to provide an image in said imageable material.

21.     A method comprising imaging the thermographic material of claim 16 with a thermal imaging source to provide a visible image.

20              22.     The method of claim 19 wherein said imaging is carried out using a thermal print head or a laser.

25              23.     The method of claim 19 further comprising using said imaged thermographic material for medical diagnostic purposes.